REMARKS

Applicant amends claims 16, 21, 22-24, 26, 27, 29, 32 - 34. The amendments are supported, e.g., by paragraph [0019] of the published U.S. Patent Publication no. 2007/0127394. New claim 37 is added and is supported, e.g., by paragraph [0019] of the published U.S. Patent Publication no. 2007/0127394. No new matter is added. Claim 35 is canceled without prejudice or disclaimer, and Applicant reserves the right to add this claim again at a later date and to prosecute the claim to issuance. Claims 16-34, 36, and 37 are presently pending.

35 U.S.C. §101 Rejections

The Examiner rejected claims 32-34 under 35 U.S.C. §101 because the claims allegedly are directed to "non-statutory" subject matter.

Applicant has amended claim 32 to state "A memory~~computer readable storage medium~~ storing a computer program, the computer program configured to control a processor to perform the following...". A memory should not include a transitory signal.

Consequently, Applicant respectfully requests this §101 rejection be withdrawn.

Applicant would respectfully like to disagree with the current guidelines, as embodied in the Eligibility Examination Instructions (and on the "Subject Matter Eligibility of Computer Readable Media" memorandum signed by Mr. David Kappos on 26 January 2010). In particular, Applicant cannot determine what qualifies as a "non-transitory" computer readable storage medium. For instance, the guidelines apparently require the computer readable medium to be "non-transitory". However, most computer memory is transitory. RAM for example is read/write, which means that a program would be loaded into a part of memory (thereby potentially overwriting that portion of memory), executed, and,

when the program finishes operating, removed from memory. The RAM also completely loses its contents when the computer is shut off. Therefore, RAM is transitory.

Moreover, even long term storage, such as hard drives and "firmware", is transitory in most cases: programs on hard drives can be written over, deleted, etc.; and firmware can be erased (e.g., using voltage or light) or written over (e.g., using voltage), etc. Page 2 of the Eligibility Examination Instructions gives the example of a compact disc, but even these are known to lose their programming, get scratched, etc., which means that the programming on these might be "transitory".

The PTO's reliance on In re Nuijten for stating that computer readable media cannot encompass a "signal" is misplaced. That issue was not before the court:

> Finally, Nuijten's allowed Claim 15 is directed to "**[a] storage medium** having stored thereon a signal with embedded supplemental data," where the stored signal has essentially the encoding properties described above. Thus, Nuijten has been allowed claims to the process he invented, a device that performs that process, and a storage medium holding the resulting signals. **None of these claims is before us on appeal.**

In re Nuijten, Fed. Cir., 2006-1371 page 6.

With regard to the Eligibility Examination Instructions, these state that "a claim to a computer readable medium that can be a compact disc or a *carrier wave* covers a non-statutory embodiment and therefore should be rejected under § 101 as being directed to non-statutory subject matter" (Eligibility Examination Instructions, page 2). However, what is a "carrier wave"? A hard drive has a series of locations on the drive that have some predetermined magnetic states. What separates these predetermined magnetic states from a "carrier wave"? A RAM has locations corresponding to bits, and those locations are at certain voltage states (for instance). What separates these bits from a "carrier wave"? A compact disc has a series of holes on the surface of the disc, and those holes encode digital information. What separates these holes from a "carrier wave"? Certainly in order to read a

RAM, the magnetic states of a drive, or holes in a compact disc, some type of "wave" has to be generated and decoded.

Applicant respectfully submits that the current PTO guidelines, as embodied in the Eligibility Examination Instructions, with regard to computer readable (storage) media make a scope of what is a "computer readable medium" undefined.

35 U.S.C. §102(e) Rejections

The Examiner rejected claims 16-18, 21-25, 28, 29, 31, 32, 34, and 35 as being anticipated by Rune (U.S. Patent Publication no. 2004/0167988). Applicant respectfully disagrees. The independent claims are claims 16, 21, 22, 29, 32, and 35.

Claim 29 appears to be one of the broader independent claims and is reproduced below (this claim is shown in a form prior to the present amendment).

> An apparatus comprising:
>
> a processor configured to
>
> [check] a destination address of a received packet,
>
> compare the destination address of the packet with at least one predetermined multicast and/or broadcast address, and
>
> prevent transmission of the packet to a first device if the addresses match,
>
> wherein the apparatus is configured to forward multicast messages from the first device.

The Examiner states that the subject matter of "compare the destination address of the packet with at least one predetermined multicast and/or broadcast address" and "prevent transmission of the packet to a first device if the addresses match" in claim 29 (prior to the present amendments) is disclosed by Rune. Applicant respectfully disagrees.

What Rune states regarding broadcast types is the following (emphasis added)

[0123] FIGS. 10-15 illustrate the coverage areas of the different broadcast types. The NAPSA broadcast type, as the name implies, is used to broadcast packets to a single NAPSA. This is illustrated in FIG. 10 (which is similar to FIG. 8), where each isolated gray area 1000-1008 represents a different NAPSA broadcast area. **A NAPSA broadcast packet is not allowed to leave its broadcast area.** Thus, NAPSA broadcast packets are not forwarded to the LAN and are not allowed to cross a NAPSA border.

[0124] The scatternet broadcast type, as the name implies, is used to broadcast packets within the scatternet. This arrangement is illustrated in FIG. 11, where each contiguous gray area 1100-1106 represents different broadcast areas for a scatternet broadcast packet. **Such broadcast packets are not forwarded to the LAN.** When more than one AD exists in a scatternet, the scatternet broadcast packets carrying higher layer protocol packets, i.e. packets from protocol layers above the NAL, e.g. IP, are not allowed to cross an AD border. These packets are consequently limited to a part of the scatternet belonging to the same AD. Scatternet broadcast packets that are not carrying packets from higher layer protocols, such as NAL control packets, however, are allowed to cross AD borders and may therefore still be broadcast in the whole scatternet. A NAL control packet does not encapsulate data from a higher protocol layer and is only used to transfer signaling and control information between NAL entities in different Bluetooth nodes. This arrangement is illustrated in FIG. 12, where each contiguous gray area 1200 and 1202 represents the broadcast area of an NAL control packet.

[0125] The AD broadcast type covers the LAN and any attached scatternets that are associated with the same AD as the LAN. These broadcast packets are forwarded by NAPs from/to the LAN to/from the scatternet, but the NAPSA borders in the scatternet are respected. This arrangement is illustrated in FIG. 13, where each contiguous gray area 1300-1304 represents the broadcast area of an AD broadcast packet. An AD broadcast packet is used to reach all the nodes in the AD (including the nodes on the LAN). All broadcast packets that are forwarded from the LAN to the scatternet are sent using the AD broadcast type.

[0126] The scatternet-AD broadcast type is a special broadcast type used only for route requests. This broadcast type is, as the name implies, a combination of the scatternet broadcast type and the AD broadcast type. The scatternet-AD broadcast packets are distributed through the entire scatternet without respecting the NAPSA borders, as well as the entire AD via the NAPs. However, the NAPSA borders are respected after a scatternet-AD broadcast packet re-enters the scatternet via a NAP.

Thus, in Rune, the NAPSA broadcast packets are not forward to a scatternet, and the scatternet broadcast packets are not forwarded to the LAN. However, these packets are not forwarded based on their broadcast type, which is defined by an indicator in a NAL (network adaptive layer) header (emphasis added):

> [0122] In addition to the routing protocol discussed above, the NAL also has a broadcast mechanism. (Note that broadcasting on the LAN is inherent in the shared medium and no "broadcast" mechanism is needed.) In accordance with embodiments of the invention, the NAL includes four different types of broadcasts: NAPSA broadcast, scatternet broadcast, AD broadcast, and scatternet-AD broadcast. The differences between broadcast types lie in the scope of the distribution and how the NAPs and other nodes at the NAPSA borders treat the different broadcast packets. **Note that the broadcast type is defined by an indicator in the NAL header.** In that sense, these different broadcast types can only exist in the scatternet. On the other hand, an Ethernet broadcast packet (originated on the LAN) that is forwarded from the LAN to the scatternet becomes an AD broadcast packet when it is forwarded into the scatternet. The broadcast type may be indicated in the NAL header, for example, with a two-bit indicator, as indicated in Table 2.

Thus, the broadcast type is defined in Rune by an indicator in the NAL header.

It is clear that filtering of broadcast packets in Rune is performed without examination of destination addresses for packets (emphasis added):

> [0196] The second main component of the invention is the packet filtering mechanism. As already mentioned, a NAP does not indiscriminately forward packets. Instead, it uses the packet filtering mechanisms (see FIG. 9) to reduce the number of unnecessarily forwarded packets. For example, forwarding is unnecessary when both the source and the destination node are located on the same side of the NAP. Furthermore, NAL broadcast packets of the NAPSA broadcast type and the scatternet broadcast type are always blocked by the packet filtering mechanisms. **Only those packets that pass the packet filtering mechanisms are forwarded to the scatternet.** The generated useless traffic is a waste of resources, especially so in the scatternet where radio resources and processing resources are scarce. Furthermore, this could lead to the scatternet being flooded by traffic from the LAN with its shared medium and much higher capacity. Therefore, a packet filtering mechanism is needed in order to limit the forwarding of unnecessary traffic. The packet filtering is based on the destination address and the NAL packet type. Filtering may also be based on higher layer protocols.

> [0197] The NAL packet type filtering in the NAP is performed in the packet type filtering function 912, which is present only on the scatternet side of the NAP. **The NAL packet type filtering**, in some embodiments of the invention, **is very simple: all *NAPSA broadcast type and scatternet broadcast type packets* are passed by the packet type filtering function 912 to the NAP-IPH, while *all other packet types* are passed to the address filtering function 914.**

Thus, packets having the NAPSA broadcast and scatternet broadcast ***types*** are filtered, and **all other packet *types*** are passed to an address filtering function, for forwarding to the correct address. See also, e.g., paragraphs [0222], [0224], [0237] of Rune.

As is noted in paragraphs [0125] and [0197] from Rune above, packets having the AD broadcast type are forwarded, as are packets having the scatternet-AD broadcast type (see paragraphs [0126] and [0197]).

Regarding multicast addresses, these appear to be related to route entries. See, e.g., the following:

> [0173] When (and if) the NAP-B of a NAP receives an encapsulated non-ARP-route-request (via the NAP-PFL), the NAP processes the non-ARP-route-request just like any node would process a received non-ARP-route-request. Thus, the NAP forwards the non-ARP-route-request into the scatternet, unless it already has a route to the destination node, or unless the NAP itself is the destination node. In the latter case, the NAP can immediately return an encapsulated non-ARP-route-reply. Then the next hop node in the route entry for the source node is indicated as "another NAP." This indication may be just a general indication, or it may be a specific indication that includes a NAP **multicast address** or the specific source MAC address of the Ethernet packet that carried the received encapsulated ARP-route-request. The choice between general indication, NAP multicast address or source MAC address depends on whether broadcast packets, multicast packets or unicast packets are used to carry a corresponding encapsulated ARP-route-reply.

See also paragraphs [0156], [0186], and [0187] of Rune. There are additional references to "multicast" in Rune, but none of these references relate to the subject matter of "compare the destination address of the packet with at least one predetermined multicast and/or broadcast

address" and "prevent transmission of the packet to a first device if the addresses match" as recited in claim 29 prior to the present amendments.

Therefore, claim 29 prior to the present amendment was patentable over Rune. The present amendment did not substantively amend the subject matter of "compare the destination address of the packet with at least one predetermined multicast and/or broadcast address" and "prevent transmission of the packet to a first device if the addresses match" as recited in claim 29 prior to the present amendments. Therefore, amended claim 29 is also patentable over the cited reference.

It is noted that each other independent claim 16, 21, 22, 32, and 35 (prior to the present amendments) recites similar subject matter to the subject matter discussed above with respect to claim 29. The present amendments to these claims did not substantively change the similar subject matter discussed above in relation to claim 29 prior to the present amendments. Therefore, these other claims are also patentable over Rune for at least the reasons given above.

The dependent claims 17-20, 23-28, 33, 34, and 36 are also patentable over Rune for at least the reasons given above.

35 U.S.C. §103(a) Rejections

The Examiner stated the following:

> 2. Claims 19,20,26,27,30 and 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Rune as applied to claims 16-18, 21-25, 28,29,31, 32,34 and 35 above and further in view of Vasisht (US 2004/0133689).

Outstanding Office Action, page 13. Because independent claims 16, 22, and 32 are patentable, dependent claims 19, 20, 26, 27, 30, and 33 are patentable for at least the reasons given above.

The Examiner stated the following:

> 3. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rune as applied to claims 16,18,21,22,25,28,29,31,32,34 and 35 above, and further in view of Tung (US 2006/0136562 A1) (herein after Tung).

Outstanding Office Action, page 16. Because independent claim 22 is patentable, its dependent claim 36 is patentable for at least the reasons given above.

New Claim 37

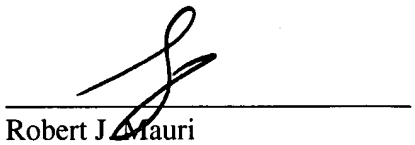
New claim 37 recites:

> A method comprising:
>
> checking a destination address of a received packet;
>
> determining whether the destination address of the packet is a predetermined multicast and/or broadcast address;
>
> in response to a determination the destination address of the packet is a predetermined multicast and/or broadcast address, preventing the transmission of the packet to a first device; and
>
> in response to a determination the destination address of the packet is not a predetermined multicast and/or broadcast address, forwarding multicast and/or broadcast messages to at least the first device.

Conclusion

Based on the foregoing arguments, it should be apparent that the pending claims are thus allowable over the reference(s) cited by the Examiner, and the Examiner is respectfully requested to reconsider and remove the rejections. The Examiner is invited to call the undersigned attorney for any issues.

Respectfully submitted:



8/11/10

Robert J. Mauri
Reg. No.: 41,180

Date

Customer No.: 29683

HARRINGTON & SMITH, Attorneys at Law, LLC

4 Research Drive
Shelton, CT 06484-6212

Telephone: (203)925-9400
Facsimile: (203)944-0245
email: rmauri@hspatent.com

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450 or is being transmitted electronically to the United States Patent and Trademark Office.

Elaine F. Mian

8/11/2010

Name of Person Making Deposit

Date